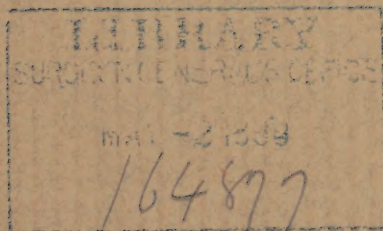


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CONCERNING NEUROLOGICAL NOMENCLATURE. ✓

BY LEWELLYS F. BARKER, M. B.,

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The nervous system, as is well known, was formerly described as being made up of nerve cells and nerve fibres. Each peripheral nerve fibre of the cerebro-spinal system consists of an axis cylinder around which is a fatty sheath, and outside this again is another sheath, the neurilemma. Bundles made up of great numbers of these nerve fibres held together by firm fibrous tissue run through the tissues of the body and are known as "nerves." The term "nerve," as originally employed, had reference to the firm, sinewy or tendinous character (Latin *nervus*, Greek *νευρον*) of these bundles, a quality dependent in reality on the fibrous connective tissue of the bundle rather than upon the really functioning irritable structures within it. The terms "nerve" and "nervous" are now connected in thought rather with the functionally irritable structures.

The relations of the nerve cells to the nerve fibres remained for a long time unknown. The nerve cells occurring in groups within the nerve centres were known to possess branched processes, the so-called protoplasmic processes or *dendrites*. Later on it was shown that the axis cylinder of every nerve fibre is always a process—an integral part, therefore—of a nerve cell, though this process is very different in form and probably in function from the other processes (*dendrites*). It has then been demonstrated that the whole nervous system is made up of units, each unit consisting as a rule of a nucleated cell body with its dendrites, together with one or more axis cylinder processes with side-branches (side-fibrils, and collaterals or paraxones) and end-ramifications. Each of these units inclusive of all its processes is in reality a single cell of the body, quite analogous to a single liver cell, or a single muscle cell, and a very suitable name for the unit would be "nerve-

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cell" were it not for the fact that this term has been used for decades to indicate only a portion of the unit as mentioned above (viz. all except the axis cylinder) and in many minds would call forth this erroneous idea. It remained, therefore, to find a satisfactory name for the whole nerve unit. Waldeyer of Berlin suggested that from the Greek $\delta \nuευρ\acute{\omega}\nu$ a new German word be coined, *der Neurón* (pl. *die Neuronen*), and the introduction of this term has been of significant influence in making the ideas involved in what is now generally called the neurone-conception of the nervous system generally known and appreciated. The term has been in Germany almost universally adopted by morphologists, histologists, physiologists and clinicians notwithstanding the objection offered by v. Kölliker that the term $\delta \nuευρ\acute{\omega}\nu$ in reality indicates "einen Sammelpunkt vieler Neuren oder Nerven." He has suggested that the word *Neurodendren* or *Neurodendridien* be used instead. Van Gehuchten has adopted Waldeyer's word, spelling it in French "*le neurone*," and French writers generally employ it. The leading investigators in Spain and Italy have also adopted the same term; so that even if it were etymologically somewhat objectionable, its use has become so general and cosmopolitan that it seems as though we must also employ it in English. Baker's suggestion that we use the term *neure* is a very good one, but the term of Waldeyer has already become too prevalent to be easily supplanted. The question arises, how is Waldeyer's term to be anglicized? Would it be justifiable to bring it into English through the French and to spell it *neurone*, pronounced *neurōne*, or could it be brought into English directly from the Greek and be so spelled and pronounced? It is especially desirable that this spelling and pronunciation be permissible, owing to the fact that a few writers, among others Schaefer and Donaldson, have employed another word, *neuron* (Gk. $\tau\omicron \nuευρ\omicron\nu$), to mean the axis cylinder process, a nomenclature which is obviously etymologically faulty and which in my opinion is not likely to become generally popular owing (1) to the existence of a better term for the axis cylinder, viz. axone or neuraxone (Greek $\acute{\alpha}\xi\acute{\omega}\nu$), already current; and (2) to the likelihood of its confusion with the word introduced by Waldeyer for the whole nerve unit, a word now in almost universal use in other countries.

For the sake of avoidance of confusion in the bibliography a speedy agreement concerning the nomenclature is certainly highly desirable. I have submitted the question, very much as outlined above, to Prof. B. L. Gildersleeve of the Johns Hopkins University, with a request for aid, which has been courteously and promptly given. Prof. Gildersleeve writes me that v. Kölliker's objection to *νευρών* will not hold, for it would apply equally well to *παρθενών*, which means "the house of the virgin." He adds, "While the spelling *neurone* is not pleasing, still for that matter the spellings *anode* and *cathode* are just as objectionable, since after the analogy of *method* they should be spelled *anod* and *cathod*, and under the circumstances *neurone* seems to be inevitable." It is a matter of congratulation, I think, that neurologists may thus use the term in English with the sanction of a recognized authority in Greek. If medical and scientific writers will co-operate, we may finally hope to bring about the establishment and maintenance of a uniform international nomenclature.

